

IN THE CLAIMS:

Claims 1-9 cancelled.

10. (Previously Amended) A method as claimed in Claim 15, wherein the nitrogen-based semiconductor layer includes either $\text{In}_x\text{Ga}_{1-x}\text{N}$ ($0 \leq x \leq 1$) or $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 \leq x \leq 1$).

11. (Previously Amended) A method as claimed in Claim 15, wherein the nitrogen-based semiconductor layer includes at least two components selected from a group consisting of $\text{In}_x\text{Ga}_{1-x}\text{N}$ ($0 \leq x \leq 1$), $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 \leq x \leq 1$), and $\text{Al}_x\text{In}_y\text{Ga}_{1-x-y}\text{N}$ ($0 \leq x + y \leq 1$).

12. (Previously Amended) A method as claimed in Claim 20, wherein the sapphire is etched out by the use of the etchant kept at a temperature not lower than 300°C .

13. (Previously Amended) A method as claimed in Claim 17, wherein the nitrogen-based semiconductor device structure forms a semiconductor laser, a light emitting diode, and/or a field effect transistor.

14. (Previously Amended) A method as claimed in Claim 15, further comprising the step of:

polishing the nitrogen-based semiconductor layer on its surface faced to the provisional substrate so as to flatten the surface.

15. (Currently Amended) A method of manufacturing a nitrogen-based semiconductor layer grown on a hetero-substrate with a bottom layer of the nitrogen-based semiconductor layer attached to the hetero substrate, comprising the steps of:

forming, on an upper surface of the nitrogen-based semiconductor layer, a protection layer composed of ~~at least one material selected from a group consisting of Au, Pt, Ti, Au, Pd, Ni, Ti, Pt, Au, AuZn, and AuGe~~, a predetermined material so that the protection layer covers ~~at least~~ completely the upper surface of the nitrogen-based semiconductor layer; and

etching out the hetero-substrate by the use of an etchant for the hetero-substrate to ~~leave the nitrogen-based semiconductor layer with the upper surface of the nitrogen based~~
semiconductor layer completely covered with the protection layer while the hetero-substrate is
being etched.

16. (Previously Added) A method as claimed in Claim 15, wherein the nitrogen-based semiconductor layer is formed by a nitrogen-based semiconductor thick film.

17. (Previously Added) A method as claimed in Claim 15, wherein the nitrogen-based semiconductor layer implements a nitrogen-based semiconductor structure.

18. (Previously Added) A method as claimed in Claim 16, further comprising the step of:

processing the nitrogen-based semiconductor substrate into a nitrogen based semiconductor element after the hetero-substrate is etched out.

19. (Previously Added) A method as claimed in Claim 17, wherein the protection layer is used as an electrode of the nitrogen-based semiconductor element.

20. (Previously Added) A method as claimed in Claim 15, wherein the hetero-substrate is a sapphire substrate while the etchant is formed by a mixed solution of phosphoric acid and sulfuric acid or another mixed solution including the phosphoric acid and the sulfuric acid.

21. (New) A method as claimed in claim 15, further comprising the step of:
removing the protection layer from the upper surface of the nitrogen-based semiconductor layer to leave the nitrogen-based semiconductor layer alone.

22. (New) A method as claimed in claim 21, wherein the predetermined material is selected from a group consisting of Au, Pt, Ti-Au, Pd-Au, Ni-Au, Ti-Pt-Au, Au-Zn, and AuGe.